

## ABSTRACT

An array speaker system, in which a plurality of speaker units are arranged in an array and are supplied with signals having prescribed time differences so as to perform directivity control on audio signal beams emitted therefrom, includes a delay memory (e.g., a shift register) having plural delay taps for outputting an input signal thereof with different delay times, which are set in units of the sampling period, and an interpolation processing means for performing interpolation processing on the output of the delay memory. A control means calculates distances between a focal point of audio signal beams and the speaker units so as to produce delay times, and it also sets interpolation coefficients with respect to the speaker units respectively. The interpolation processing means performs linear interpolation on the outputs of the delay memory. Alternatively, an FIR low-pass filter is formed using the delay memory and interpolation processing means, thus performing delay and interpolation processing. Delayed and interpolated signals are supplied to the speaker units, thus performing directivity control on audio signal beams with high precision.